CLAIMS:

1. A process to produce at least one naphthenic base oil having a low aniline point from a hydrocarbon feedstock containing heteroatom species and aromatics and boiling in the gas oil range, said process comprising:

   a) hydrofining said feedstock under hydrofining conditions effective for removing at least a portion of the heteroatom species and saturating at least a portion of said aromatics to produce a first stage effluent having a reduced amount of heteroatom species;

   b) stripping said first stage effluent in a stripping column wherein at least one intermediate stream is removed from said stripping column;

   c) dewaxing said intermediate stream under catalytic dewaxing conditions to produce at least one second stage effluent containing heteroatom species;

   d) hydrotreating said second stage effluent under hydrotreating conditions effective for removing at least a portion of the heteroatom species to produce at least one third stage effluent having a reduced amount of heteroatom species; and

   e) fractionating said third stage effluent to produce at least one base oil.

2. The process according to claim 1 wherein said feedstock is a mixture of several less desirable refinery streams such as, for example, coker gas oil, lube extracts, deasphalted oil, fuels distillates, and cracker resids.

3. The process according to claim 2 wherein said catalytic dewaxing conditions include temperatures from about 250 - 400°C, pressures of from about 791 to about 20786 kPa (100 to 3000 psig), liquid hourly space velocities ranging from about 0.1 to about 10 hr^{-1}, and hydrogen treat gas rates range from about 45 to about 1780 m^3/m^3 (250 to 10000 scf/B).

4. The process according to claim 3 wherein catalysts used in dewaxing said intermediate stream are selected from 10 or 12 ring zeolites and silicoaluminophosphates.

5. The process according to claim 3 wherein said hydrotreating conditions include temperatures from about 100°C to about 400°C and pressures from about 50 psig to about 3,000 psig.

6. The process according to claim 5 wherein catalysts used in hydrotreating said second stage effluent are selected from conventional hydrotreating catalysts comprising about 2 to 20 wt.% of at least one metal selected from Group 8-10

metals, and about 5 to 50 wt.% of at least one Group 6 or 16 metal on a high surface area support material.

7. The process according to claim 6 wherein said intermediate stream has an API gravity (60/60°F) of about 15 to about 30, a viscosity of about 5 to about 20 cSt at 40°F, a viscosity index ("VI") of about -25 to about 5, a 5%LV of about 350 to about 450°F, and a 95%LV of about 700 to about 1250°F.

8. The process according to claim 7 wherein said intermediate stream is further characterized as having less than about 500wppm sulfur, and an aniline point of less than about 200°F.

9. The process according to claim 6 wherein said intermediate stream has an API gravity (60/60°F) of about 20 to about 30, a viscosity of about 10 to about 20 at 40°F, a viscosity index ("VI") of about -20 to about 0, a 5%LV of about 350 to about 425°F, and a 95%LV of about 800 to about 1200°F.

10. The process according to claim 7 wherein said intermediate stream is further characterized as having less than about 400wppm sulfur, and an aniline point of about 125 to about 200°F.

11. The process according to claim 6 wherein said intermediate stream API gravity (60/60°F) of about 22 to about 27, a viscosity of about 10 to about 15 at 40°F, a viscosity index ("VI") of about -20 to about -5, a 5%LV of about 380 to about 405°F, and a 95%LV of about 800 to about 1000°F.

12. The process according to claim 7 wherein said intermediate stream is further characterized as having less than about 300wppm sulfur, and an aniline point of about 130 to about 160°F.

13. The process according to claim 9 wherein fractionating said third stage effluent to produces at least two base oils.

14. The process according to claim 11 wherein fractionating said third stage effluent to produces at least three base oils, a fraction boiling higher than any of said three base oils and a fraction boiling in the kerosene range.

15. The process according to claim 2 wherein said at least one base oil has a viscosity of about 60 SSU to about 2000 SSU at 100°F.

16. The process according to claim 13 wherein the first of said at least two base oils has a viscosity of about 100 SSU to about 750 SSU at 100°F, and the

second of said at least two base oils has a viscosity greater than about 750 SSU at 100°F.

17. The process according to claim 14 wherein the first of said at least three base oils has a viscosity of about 100 SSU to about 150 SSU at 100°F; the second of said at least two base oils has a viscosity of greater than about 700 SSU to about 800 SSU at 100°F, and the third of said at least three base oils has a viscosity of about 1100 SSU to about 1300 SSU at 100°F.

18. A process for producing at least two base oils having low aniline points from a hydrocarbon feedstock comprising a mixture of several refinery streams selected from coker gas oil, lube extracts, deasphalted oil, fuels distillates, and cracker resids, said hydrocarbon feedstock containing heteroatom species and aromatics and boiling in the range of about 150°C to about 550°C , said process comprising:

a) hydrofining said feedstock under hydrofining conditions effective for removing at least about 50 vol.% of the sulfur heteroatom compounds, more than about 20 vol.% of the nitrogen heteroatom compounds, and saturating about 20 vol.% of the aromatics present in the feedstock are saturated to produce a first stage effluent having a reduced amount of heteroatom species;

b) stripping said first stage effluent in a stripping column having at least one feed tray and at least one reflux tray wherein at least one intermediate stream characterized as having less than about 500wppm sulfur, an aniline point of about 100 to about 200°F, an API gravity (60/60°F) of about 15 to about 30, a viscosity of about 5 to about 20 cSt at 40°F, a viscosity index ("VI") of about -25 to about 5, a 5%LV of about 350 to about 450°F, and a 95%LV of about 700 to about 1250°F is removed from said stripping column at a point between said feed tray and said reflux tray;

c) dewaxing said intermediate stream under catalytic dewaxing conditions to produce at least one second stage effluent containing heteroatom species;

d) hydrotreating said second stage effluent under hydrotreating conditions effective for removing at least a portion of the heteroatom species to produce at least one third stage effluent having a reduced amount of heteroatom species; and

e) fractionating said third stage effluent to produce at least two base oils wherein the first of said at least two base oils has a viscosity of about 100 SSU to about 750 SSU at 100°F, and the second of said at least two base oils has a viscosity greater than about 750 SSU at 100°F.

19. The process according to claim 17 wherein said catalytic dewaxing is carried out by contacting said intermediate stream with a dewaxing catalyst selected from 10 or 12 ring zeolites and silicoaluminophosphates under conditions including temperatures from about 250 - 400°C, pressures of from about 791 to about 20786 kPa (100 to 3000 psig), liquid hourly space velocities ranging from about 0.1 to about 10 hr^{-1}, and hydrogen treat gas rates range from about 45 to about 1780 m^3/m^3 (250 to 10000 scf/B).

20. The process according to claim 18 wherein said hydrotreating is carried out by contacting said second stage effluent with a hydrotreating catalyst selected from conventional hydrotreating catalysts comprising about 2 to 20 wt.% of at least one metal selected from Group 8-10 metals, and about 5 to 50 wt.% of at least one Group 6 or 16 metal on a high surface area support material under conditions including temperatures from about 100°C to about 400°C and pressures from about 50 psig to about 3,000 psig.

21. The process according to claim 19 wherein said intermediate stream has less than about 400wppm sulfur, an API gravity (60/60°F) of about 20 to about 30, a viscosity of about 10 to about 20 at 40°F, a viscosity index ("VI") of about -20 to about 0, a 5%LV of about 350 to about 425°F, a 95%LV of about 800 to about 1200°F, and an aniline point of about 125 to about 200°F.

22. The process according to claim 19 wherein said intermediate stream has less than about 300wppm sulfur, an API gravity (60/60°F) of about 22 to about 27, a viscosity of about 10 to about 15 at 40°F, a viscosity index ("VI") of about -20 to about -5, a 5%LV of about 380 to about 405°F, a 95%LV of about 800 to about 1000°F, and an aniline point of about 130 to about 160°F.

23. The process according to claim 21 wherein fractionating said third stage effluent to produces at least three base oils, a fraction boiling higher than any of said three base oils and a fraction boiling in the kerosene range.

24. The process according to claim 22 wherein the first of said at least three base oils has a viscosity of about 100 SSU to about 150 SSU at 100°F; the second of said at least two base oils has a viscosity of greater than about 700 SSU to about 800 SSU at 100°F, and the third of said at least three base oils has a viscosity of about 1100 SSU to about 1300 SSU at 100°F.

25. A process for producing at least three base oils having low aniline points from a feedstock comprising a mixture of several refinery streams selected from coker gas oil, lube extracts, deasphalted oil, fuels distillates, and cracker resids, said hydrocarbon feedstock containing heteroatom species and aromatics and boiling in the range of about 150°C to about 550°C , said process comprising:

a) hydrofining said feedstock under hydrofining conditions effective for removing at least about 50 vol.% of the sulfur heteroatom compounds, more than about 20 vol.% of the nitrogen heteroatom compounds, and saturating about 20 vol.% of the aromatics present in the feedstock are saturated to produce a first stage effluent having a reduced amount of heteroatom species;

b) stripping said first stage effluent in a stripping column having at least one feed tray and at least one reflux tray wherein at least one intermediate stream characterized as having less than about 400wppm sulfur, an API gravity (60/60°F) of about 20 to about 30, a viscosity of about 10 to about 20 at 40°F, a viscosity index ("VI") of about -20 to about 0, a 5%LV of about 350 to about 425°F, a 95%LV of about 800 to about 1200°F, and an aniline point of about 125 to about 200°F is removed from said stripping column at a point between said feed tray and said reflux tray;

c) dewaxing said intermediate stream under catalytic dewaxing conditions to produce at least one second stage effluent containing heteroatom species;

d) hydrotreating said second stage effluent under hydrotreating conditions effective for removing at least a portion of the heteroatom species to produce at least one third stage effluent having a reduced amount of heteroatom species; and

e) fractionating said third stage effluent to produce at three base oils, a fraction boiling higher than any of said three base oils, and a fraction boiling in the kerosene range, wherein the first of said at least three base oils has a viscosity of about 100 SSU to about 150 SSU at 100°F; the second of said at least two base oils has a viscosity of greater than about 700 SSU to about 800 SSU at 100°F, and the third of said at least three base oils has a viscosity of about 1100 SSU to about 1300 SSU at 100°F.

26. The process according to claim 25 wherein said catalytic dewaxing is carried out by contacting said intermediate stream with a dewaxing catalyst selected from 10 or 12 ring zeolites and silicoaluminophosphates under conditions including temperatures from about 250 - 400°C, pressures of from about 791 to about 20786 kPa (100 to 3000 psig), liquid hourly space velocities ranging from about 0.1 to about 10 hr^{-1}, and hydrogen treat gas rates range from about 45 to about 1780 m^3/m^3 (250 to 10000 scf/B).

27. The process according to claim 26 wherein said hydrotreating is carried out by contacting said second stage effluent with a hydrotreating catalyst selected from conventional hydrotreating catalysts comprising about 2 to 20 wt.% of at least one metal selected from Group 8-10 metals, and about 5 to 50 wt.% of at least one Group 6 or 16 metal on a high surface area support material

under conditions including temperatures from about 100°C to about 400°C and pressures from about 50 psig to about 3,000 psig.